PROJECT DESCRIPTION:

THE WORK ON THE PROJECT INCLUDES THE REMOVAL AND REPLACEMENT OF AN EXISTING BRIDGE ABUTMENT AS WELL AS THE REMOVAL AND REPLACEMENT OF AN EXISTING FISHING PIER. THE PROJECT ALSO INCLUDES RELATED SHORELINE RESTORATION AND PROTECTION ADJACENT TO THE REPLACED STRUCTURES. THE PROJECT IS LOCATED ALONG THE SAUK RIVER ON THE VA HEALTH CARE SYSTEM CAMPUS IN ST. CLOUD, STEARNS COUNTY, MINNESOTA. THE VA HEALTH CARE SYSTEM CAMPUS IS LOCATED NORTH AND WEST OF THE INTERSECTION OF VETERANS DRIVE AND 44TH AVENUE NORTH.

RECEIVING WATERS:

THE RECEIVING WATER IS THE SAUK RIVER WHICH IS THE NORTHERLY BORDER OF THE PROPERTY, AND IS LISTED BY THE MPCA AS IMPAIRED.

RESPONSIBLE PARTIES:

THE ST. CLOUD VA AND THE CONTRACTOR ARE RESPONSIBLE CO-PERMITTEES FOR THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION, INSPECTION, MAINTENANCE, AND REPAIR OF ALL EROSION PREVENTION AND SEDIMENT CONTROL BMP'S BEFORE, DURING, AND AFTER ACTIVE CONSTRUCTION. THE ST. CLOUD VA IS RESPONSIBLE FOR THE LONG-TERM OPERATIONS AND MAINTENANCE OF ALL PERMANENT STORMWATER MANAGEMENT SYSTEMS. THE CONTRACTOR IS LIABLE UNTIL FINAL STABILIZATION OF ALL DISTURBED AREAS IS ACHIEVED AND THE NOTICE OF TERMINATION (NOT)/PERMIT MODIFICATION FORM IS SUBMITTED TO THE MPCA (AS SPECIFIED IN THE NPDES CONSTRUCTION PERMIT.)

PROJECT ENGINEER	ST. CLOUD VA	CONTRACTOR
GINA M. DULLINGER, PE		TBD
DESIGN TREE ENGINEERING, INC.		
3339 W. ST. GERMAIN, SUITE 250		
ST. CLOUD, MN 56301		
(320) 217-5557		
GMD@DESIGNTREEENGINEERING.COM		

CONSTRUCTION NOTES:

CONSTRUCTION SHALL BE GOVERNED BY MNDOT SPECIFICATIONS, SPECIAL PROVISIONS, AMENDMENTS AND THE PROJECT SPECIFICATIONS AND DETAIL PLATES. PERMITS AND MAPS RELATING TO THE PROJECT'S SWPPP CAN BE FOUND IN THH PROJECT MANUAL. THE CONTRACTOR SHALL KEEP THE INSPECTION AND MAINTENANCE LOG ON-SITE AT ALL TIMES DURING ACTIE CONSTRUCTION. PLEASE REFER TO PLANS AND SPECIFICATIONS FOR ADDITIONAL SWPPP INFORMATION.

SPECIAL WATER, IMPAIRED WATER & TMDL IMPLEMENTATION PLANS:
THE SAUK RIVER IS LISTED AS IMPAIRED. ALL DISTURBED AREAS NOT ACTIVELY BEING WORKED MUST BE STABILIZED WITHIN 7 DAYS. RUNOFF FROM THE PROJECT FLOWS DIRECTLY TO THE RIVER. ST. CLOUD VA IS RESPONSIBLE FOR THE LONG TERM MAINTENANCE OF THE PROJECT. INLET PROTECTION, SILT FENCES, FINAL STABILIZATION, AND BMP'S MUST BE IMPLEMENTED PRIOR TO ALLOWING ANY WATER RUNOFF TO BE COLLECTED WITHIN THE ST. CLOUD VA STORM SEWER COLLECTION SYSTEM.

CALCULATIONS:

AREA TO BE DISTURBED = 0.368 AC
PRE-CONSTRUCTION IMPERVIOUS AREA = 0.050 AC
POST-CONSTRUCTION IMPERVIOUS AREA = 0.057 AC
NET INCREASE IN IMPERVIOUS AREA = 0.007 AC

TIMING OF BMP INSTALLATION:

THE EROSION AND SEDIMENT CONTROL BMP'S SHALL BE INSTALLED AS NECESSARY TO MINIMIZE EROSION FROM DISTURBED SURFACES AND CAPTURE SEDIMENT ON SITE AND SHALL MEET THE NPDES PERMIT PART IV CONSTRUCTION ACTIVITY REQUIREMENTS. PERIMETER CONTROLS SHALL BE PLACED PRIOR TO THE START OF ANY CONSTRUCTION. ALL DISTURBED AREAS NOT ACTIVELY BEING WORKED MUST BE STABILIZED WITHIN 7 DAYS.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):

THE PERMITTEES MUST IMPLEMENT THE ENTIRE SWPPP AND THE REQUIREMENTS OF THE NPDES PERMIT. THE BMP'S IDENTIFIED IN TEH SWPPP AND IN THE PERMIT MUST BE SELECTED, INSTALLED AND MAINTAINED IN AN APPROPRIATE AND FUNCTIONAL MANNER THAT IS IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS AND ACCEPTED ENGINEERING PRACTICES.

CONTACTS:

AGENCY	PERMIT	NAME	PHONE NUMBER
Stearns County		Wayne Cymbaluk	(320) 656-3613
DNR Waters		Janell Miersch	(218) 739-7576 Ext. 232
ACOE		St. Paul Office	(651) 290-5375
State Duty Officer		MPCA	(800) 422-0798
SWPPP Designer		Gina M. Dullinger, PE	(320) 217-5557
Erosion Control Review		Daniel J. Folsom, PE	(320) 217-5557
Erosion Control Supervisor		TBD	

LOCATION OF SWPPP REQUIREMENTS:

DESCRIPTION	TITLE	SHEET # OR SPECIFICATION SECTION
Receiving Surface Water	Sauk River	C1.0, C1.1, C1.2, C2.0, C2.1
Final Stabilization	Grading and Erosion Control Plan	C1.1, C2.1
Drainage Plans	Grading and Erosion Control Plan	C1.1, C2.1
Drainage Details	Details	C3.0, C3.2
Erosion Control Sheets	Grading and Erosion Control Plan	C1.1, C2.1
Erosion Control Details	Details	C3.0, C3.2

SEQUENCE OF CONSTRUCTION:

CONTRACTOR TO VERIFY THAT ALL APPLICABLE PERMITS HAVE BEEN OBTAINED AND NPDES PERMIT MODIFICATION FORM HAS BEEN SUBMITTED TO MPCA PRIOR TO THE START OF CONSTRUCTION.

1. PERMITTEE MUST PLAN FOR AND IMPLEMENT CONSTRUCTION PHASING, VEGETATION BUFFER STRIPS, HORIZONTAL SLOPE GRADING, AND OTHER CONSTRUCTION PRACTICES THAT MINIMIZE EROSION, SO THAT THE INSPECTION AND MAINTENANCE REQUIREMENTS OF PART IV.E. OF THE NPDES CONSTRUCTION PERMIT ARE COMPLIED WITH. THE LOCATION OF AREAS NOT TO BE DISTURBED MUST BE DELINEATED ON THE PROJECT BEFORE SITE WORK BEGINS.
2. SEDIMENT CONTROL PRACTICES MUST BE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITIES BEGIN. THESE PRACTICES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION IS ACHIEVED.
3. CONTRACTOR TO ROUGH GRADE SITE AND PERFORM SITE CONSTRUCTION, THEN INSTALL AND MAINTAIN ALL TEMPORARY/PERMANENT EROSION CONTROL BMP'S AS SHOWN ON PLANS AND IN CONFORMANCE WITH NPDES CONSTRUCTION PERMIT REQUIREMENTS.
4. CONTRACTOR TO ACHIEVE FINAL STABILIZATION PRIOR TO SUBMISSION OF NOTICE OF TERMINATION.

DEWATERING AND BASIN DRAINING:

DEWATERING OR BASIN DRAINING THAT MAY HAVE TURBIDOR SEDIMENT LADEN DISCHARGE WATER MUST BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN ON THE PROJECT SITE WHENEVER POSSIBLE. DISCHARGE FROM THE TEMPORARY OR PERMANENT SEDIMENTATION BASIN MUST BE VISUALLY CHECKED TO ENSURE ADEQUATE TREATMENT IS OBTAINED IN TEH BASIN AND NUISANCE CONDITIONS, IMPACTS TO WETLANDS, AND EROSION IN RECEIVING CHANNELS OR ON DOWNSLOPE PROPERTIES WILL NOT RESULT FROM THE DISCHARGE. ADEQUATE SEDIMENTATION CONTROL MEASURES ARE REQUIRED FOR DISCHARGE WATER THAT CONTAINS SUSPENDED SOLIDS.

SOLID WASTE:

COLLECTED SEDIMENT, ASPHALT AND CONCRETE MILLINGS, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION AND DEMOLITION DEBRIS AND OTHER WASTES MUST BE DISPOSED OF PROPERLY AND MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS.

HAZARDOUS MATERIALS:

OIL, GASOLINE, PAINT AND HAZARDOUS SUBSTANCES MUST BE PROPERLY STORED, INCLUDING SECONDARY CONTAINMENT, TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA REGULATIONS.

CONCRETE WASHOUT ON-SITE:

ALL LIQUID AND SOLID WASTES GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY. THE LIQUID AND SOLID WASTES MUST NOT CONTACT THE GROUND AND THERE MUST NOT BE RUNOFF FROM THE CONCRETE WASHOUT OPERATIONS OR AREAS.

100% CD'S - FOR CONSTRUCTION

No	REVISION	DATE

Design Tree ENGINEERING AND LAND SURVEYING
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STAMP/SEAL: I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
GINA M. DULLINGER, PE REG. NO. 45489
DATE: 02-01-2013

DRAWING TITLE: EROSION CONTROL/SWPPP NARRATIVE

PROJECT TITLE: REPAIR ABANDONED BRIDGE ABUTMENT

BUILDING No | CHECKED BY: DJF | DRAWN: GMD

LOCATION: VA MEDICAL CENTER ST.CLOUD, MN 56303

DATE: 02.01.2013
PLOT SCALE: AS NOTED
PROJECT No.: 656-13-233
CAD FILE:
DRAWING NO.: C3.2 DWG. 9 of 24

VAMC SAINT CLOUD MN

VA FORM 08-6231

GENERAL STRUCTURAL NOTES

GENERAL
1 ARCHITECTURAL ELEVATION 100'-0" = CIVIL ELEVATION 1050.24
2 EXISTING CONSTRUCTION
  A DIMENSIONS, ELEVATIONS AND DETAILS OF EXISTING CONSTRUCTION HAVE BEEN OBTAINED FROM LIMITED FIELD INVESTIGATION AND EXISTING DOCUMENTS. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS NECESSARY TO PROPERLY COORDINATE NEW AND EXISTING CONSTRUCTION, AND PRIOR TO FABRICATION AND CONSTRUCTION. NOTIFY THE ENGINEER OF ALL VARIATIONS IN THE DETAILS, DIMENSIONS, AND ELEVATIONS OF EXISTING CONSTRUCTION WITH THAT SHOWN ON THE DRAWINGS.
  B CLEAN AND PREPARE ALL EXISTING SURFACES WHICH WILL BE IN CONTACT WITH NEW CONSTRUCTION AS INDICATED AND AS ACCEPTABLE TO ENGINEER. APPLY BONDING COMPOUND TO ALL EXISTING CONCRETE AND MASONRY SURFACES WHICH WILL BE IN CONTACT WITH NEW CONCRETE IMMEDIATELY PRIOR TO PLACEMENT.
  C PROTECT EXISTING MATERIALS FROM DAMAGE DURING CONSTRUCTION.
  D FURNISH AND INSTALL TEMPORARY SHORING OR BRACING AS NECESSARY TO PROVIDE SUPPORT AND STABILITY FOR EXISTING WALLS AND FRAMING DURING DEMOLITION AND CONSTRUCTION.
3 FUTURE CONSTRUCTION
  A PROVISIONS FOR FUTURE EXPANSION: _NONE_.

APPLICABLE SPECIFICATIONS AND CODES
CONSTRUCTION AND DESIGN SHALL BE IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE (IBC), 2006 EDITION, AND WITH THE LATEST EDITION OF THE APPLICABLE SPECIFICATIONS AND THE REQUIREMENTS NOTED AS FOLLOWS.

ASCE 7-05 "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES"

DESIGN LOADS
1 DESIGN LOADS AND LOAD APPLICATIONS ARE IN ACCORDANCE WITH BUILDING CODE.
2 BUILDING CATEGORY ---------- II
3 FLOOR LOADS
  A UNIFORM FLOOR LIVE LOADS
    i) ABUTMENT SEATING AREA ---------- 100 PSF
    ii) ABUTMENT STAGE/PLATFORM ---------- 125 PSF
    iii) ABUTMENT STAIRS ---------- 100 PSF
    iv) FISHING PIER LIVE LOAD ---------- 100 PSF
    v) FLOOR LIVE LOAD REDUCTIONS APPLIED IN ACCORDANCE WITH THE BUILDING CODE.
4 WIND FORCES
  A BASIC WIND SPEED ---------- 90 MPH
  B EXPOSURE CATEGORY ---------- C
  C IMPORTANCE FACTOR ---------- Iw = 1.0
5 SEISMIC CRITERIA
  A SEISMIC DESIGN CATEGORY ---------- A
  B IMPORTANCE FACTOR ---------- I = 1.0
6 ADDITIONAL LOADS REFERENCED ON THE STRUCTURAL DRAWINGS.

CONSTRUCTION LOADS
1 STRUCTURES HAVE BEEN DESIGNED FOR DEAD LOADS AND THE DESIGN LOADS NOTED ABOVE. PROVIDE TEMPORARY BRACING, SHORING, OR OTHER SUPPLEMENTAL SUPPORT DURING CONSTRUCTION AS NECESSARY TO PROTECT THE STRUCTURES FROM EXCESSIVE CONSTRUCTION LOADS.
2 DURING ERECTION OF THE STRUCTURE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY BRACING TO WITHSTAND ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING LATERAL LOADS, STOCKPILES OF MATERIALS, AND EQUIPMENT. SUCH BRACING SHALL BE LEFT IN PLACE AS LONG AS REQUIRED FOR SAFETY AND UNTIL ALL FRAMING, INCLUDING ROOF STRUCTURE, IS IN PLACE.
3 SUPPORTING FLOORS, ROOFS, STRUCTURAL SLABS, AND BASIN TOP SLABS SHALL BE PLACED PRIOR TO BACKFILLING AGAINST WALLS OR FILLING OF BASINS. OTHERWISE PROVIDE SUFFICIENT WALL BRACING.

FOUNDATIONS
1 FOUNDATIONS ARE DESIGNED IN ACCORDANCE WITH SOIL INVESTIGATION MADE BY INDEPENDENT TESTING TECHNOLOGIES, INC., PROJECT REPORT NUMBER 13-007, DATED JANUARY 22, 2013.
2 DESIGN NET BEARING CAPACITY FOR HELICAL ANCHORS AS SHOWN ON PLAN. CONTRACTOR SHALL INSTALL ANCHORS PER MANUFACTURER SPECIFICATIONS TO ACHIEVE REQUIRED CAPACITY.
3 MINIMUM FROST COVER FROM GRADE TO BOTTOM OF FOOTING IS 42 INCHES UNLESS NOTED OTHERWISE (60 INCHES IN UNHEATED AREAS).
4 HELICAL ANCHORS
  A HELICAL ANCHORS SHALL CONSIST OF GALVANIZED STEEL SHAFT ANCHORS UNLESS NOTED OTHERWISE.
  B INSTALLATION OF HELICAL ANCHORS SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE IBC OR MANUFACTURER, WHICHEVER IS MORE STRINGENT.
  C INSTALLATION CONTRACTOR SHALL HAVE A MINIMUM OF 3 YEARS OF HELICAL PIER INSTALLATION EXPERIENCE. HELICAL ANCHOR CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING TORQUE/LOAD RELATIONSHIP, MONITORING LOADS AND DOCUMENTING LOAD CAPACITIES FOR ALL ANCHORS.

CAST-IN-PLACE CONCRETE
1 CONCRETE CONSTRUCTION SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE'S (ACI) "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318) AND "SPECIFICATION FOR STRUCTURAL CONCRETE BUILDINGS" (ACI 301).
2 CONCRETE CONSTRUCTION IN HOT WEATHER SHALL CONFORM TO ACI 305.
3 CONCRETE CONSTRUCTION IN COLD WEATHER SHALL CONFORM TO ACI 306.
4 DETAILING, FABRICATION AND PLACEMENT OF REINFORCEMENT SHALL CONFORM TO ACI 315.
5 MATERIALS
  A CONCRETE
    i) STRUCTURAL CAST-IN-PLACE ---------- f'c = 4,000 PSI
    ii) EXTERIOR WALKS, CURBS, RAMPS ---------- f'c = 4,000 PSI
    iii) CONCRETE FILL ---------- f'c = 3,000 PSI
  B REINFORCING MATERIALS
    i) REINFORCING BARS ---------- ASTM A615, GRADE 60
    ii) WELDED WIRE FABRIC ---------- ASTM A185, FURNISH IN SHEETS ONLY
      (1) THE USE OF POLYPROPYLENE FIBERS AS A SUBSTITUTION TO WELDED WIRE FABRIC IS PROHIBITED.
6 ALL BENT REINFORCING BARS SHALL BE SHOP FABRICATED ONLY. RE-BENDING OR WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS AUTHORIZED BY ENGINEER.
7 END HOOKS IN REINFORCING BARS, SHOWN ON THE STRUCTURAL DRAWINGS BUT NOT DIMENSIONED, SHALL CONFORM TO ACI 318.
8 CONCRETE COVER OVER REINFORCEMENT SHALL BE 2 INCHES CLEAR, EXCEPT FOR THE FOLLOWING, UNLESS OTHERWISE NOTED.
  A CONCRETE PLACED AGAINST AND PERMANENTLY IN CONTACT WITH EARTH ------- 3 INCH CLEAR
  B CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH OR WATER
    i) BEAMS, COLUMNS ---------- 1.5 INCHES CLEAR
    ii) WALLS ---------- 1.5 INCHES CLEAR
    iii) SLABS ---------- 0.75 INCHES CLEAR
9 REINFORCEMENT SPLICE REQUIREMENTS
  A LAP WELDED WIRE FABRIC ONE FULL MESH AT SPLICES.
  B REINFORCEMENT SPLICES NOT PERMITTED EXCEPT AS DETAILED OR AUTHORIZED BY ENGINEER.
  C LAP REINFORCING BARS THE FOLLOWING MINIMUMS AT ALL SPLICES, CORNERS AND INTERSECTIONS, UNLESS OTHERWISE INDICATED. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES ON CONCRETE CAST BELOW THE BAR.

BAR SIZE	REGULAR BARS	TOP BARS
#3	1'-4"	1'-10"
#4	1'-9"	2'-5"
#5	2'-2"	3'-0"
#6	2'-7"	3'-7"
#7	3'-3"	4'-7"
#8	4'-3"	6'-0"
#9	5'-5"	7'-7"
#10	6'-10"	9'-7"

  D STAGGER ADJACENT REINFORCEMENT LAP SPLICES IN WALLS 18 INCHES MINIMUM.
  E BEAM AND CONTINUOUS SLAB REINFORCEMENT
    i) SPLICE TOP REINFORCEMENT AT CENTERS OF SPAN BETWEEN SUPPORTS.
    ii) SPLICE BOTTOM REINFORCEMENT AT SUPPORTS.
    iii) TERMINATE BEAM'S TOP REINFORCEMENT WITH STANDARD HOOK AT END OF CANTILEVER OR DISCONTINUOUS BEAMS.
10 PROVIDE BAR SUPPORTS TO PROPERLY SECURE AND SUPPORT REINFORCING BARS. IN ADDITION TO NORMAL ACCESSORIES PROVIDE #3 STANDEES AT 48 INCHES O.C. TO SUPPORT TOP REINFORCEMENT IN BASE SLAB, AND #3 "U" OR "Z" SHAPE SPACERS AT 72 INCHES O.C. EACH WAY IN WALLS WITH TWO CURTAINS OF REINFORCEMENT.
11 DOWELS, PIPES AND OTHER INSTALLED MATERIALS AND ACCESSORIES SHALL BE HELD SECURELY IN POSITION DURING CONCRETE PLACEMENT. ALL REINFORCEMENT IS TO BE PLACED AND SECURED PRIOR TO PLACEMENT OF CONCRETE, UNLESS OTHERWISE STATED. DOWELS SHALL BE IN PLACE, NOT INSERTED, WHILE CONCRETE IS IN A PLASTIC STATE.
12 REINFORCING BARS AND ACCESSORIES SHALL NOT BE IN CONTACT WITH ANY PIPE, PIPE FLANGE OR METAL PART EMBEDDED IN CONCRETE. PROVIDE 2 INCH CLEARANCE IN ALL CASES UNLESS OTHERWISE INDICATED. NO EMBEDDED ITEM SHALL BE SUSPENDED FROM, SUPPORTED BY, OR BRACED IN PLACE FROM STRUCTURAL REINFORCEMENT.
13 LOCATE CONSTRUCTION JOINTS WHERE SHOWN ON THE DRAWINGS OR AS AUTHORIZED BY ENGINEER. SLABS, JOISTS AND BEAMS SHALL NOT HAVE JOINTS IN A HORIZONTAL PLANE EXCEPT WHERE DETAILED ON DRAWINGS.
14 THOROUGHLY CLEAN ALL KEYWAYS AND CONSTRUCTION JOINTS PRIOR TO PLACING CONCRETE IN ADJACENT POUR.
15 PVC WATERSTOP
  A PROTECT ALL PROJECTING WATERSTOPS FROM DAMAGE AND EXPOSURE DURING CONSTRUCTION.
  B FIRMLY TIE ALL ENDS AND EDGES OF WATERSTOPS AT 18 INCH MAXIMUM TO PREVENT MOVEMENT DURING CONCRETE PLACEMENT.
16 BEGIN SPACING OF BARS WHICH PARALLEL CONSTRUCTION AND EXPANSION JOINTS 2 INCHES CLEAR EACH SIDE OF JOINT.
17 UNLESS OTHERWISE SHOWN, PLACE (2) – #5 (1 EACH FACE) WITH 24 INCH PROJECTIONS AROUND ALL OPENINGS IN CONCRETE WALLS AND SLABS.
18 PROVIDE AN ADDITIONAL 500 LINEAL FEET EACH OF #4 AND #5 REINFORCING BARS FOR USE AS DIRECTED DURING CONSTRUCTION.
19 CHAMFER ALL EXPOSED CONCRETE EDGES 0.75 INCHES, UNLESS OTHERWISE INDICATED.

CONCRETE SLAB-ON-GRADE
1 SLAB ON GRADE CONTRACTION JOINTS ARE TO BE SPACED NO GREATER THAN 12 FEET IN ANY DIRECTION, UNLESS OTHERWISE INDICATED ON PLANS.
  A AT CONTRACTOR'S OPTION, CONSTRUCTION JOINTS MAY BE SUBSTITUTED FOR CONTRACTION JOINTS.
2 LOCATE REINFORCEMENT 1.5 INCHES FROM TOP OF SLAB.
3 PROVIDE 1 – #4 x 4 FEET PARALLEL TO EDGE OF SLAB OPPOSITE THE END OF ALL DISCONTINUED SLAB JOINTS, AND 1 – #4 x 4 FEET DIAGONAL BAR AT ALL REENTRANT CORNERS. PLACE BARS MID-DEPTH IN SLAB AND 2 INCHES CLEAR FROM EDGE OF CORNER.
4 SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF DEPRESSED SLAB AREAS AND DRAINS. SLOPE SLAB TO DRAINS WHERE SHOWN.
  A SLOPE BOTTOM SURFACE OF SLABS AS NECESSARY TO MAINTAIN MINIMUM THICKNESS NOTED ON DRAWINGS FOR ALL SLABS WITH SLOPING TOP SURFACE OR DEPRESSION.
5 IN ORDER TO MINIMIZE CONCRETE SHRINKAGE CRACKING, PLACE CONCRETE SLABS IN AN ALTERNATING LANE OR CHECKERBOARD PATTERN. THE MAXIMUM LENGTH OF SLAB CAST IN ANY ONE CONTINUOUS POUR IS RECOMMENDED TO BE LESS THAN 100 FEET.
6 FINISH TOLERANCE OF ALL SLABS SHALL BE IN ACCORDANCE WITH ACI 301, TYPE A.

PRECAST PRESTRESSED CONCRETE
1 DESIGN AND FABRICATION OF PRECAST PRESTRESSED CONCRETE MEMBERS SHALL CONFORM TO ACI 318 AND PRESTRESSED CONCRETE INSTITUTE MNL-116.
2 MATERIAL
  A CONCRETE MEMBERS
    i) HOLLOWCORE PLANK ---------- f'c = 5,000 PSI
    ii) PRECAST BEAM ---------- f'c = 6,000 PSI
  B PRESTRESSING STRANDS ---------- ASTM A416, GRADE 270
3 PRECAST PRESTRESSED CONCRETE MEMBERS SHALL BE DESIGNED AND REINFORCED BY THE MANUFACTURER TO SUPPORT ALL SUPERIMPOSED DEAD LOADS AND THE DESIGN LOADS NOTED ON PLANS.
4 DEVIATIONS FROM MEMBER CROSS SECTION, LAYOUT AND CONNECTION DETAILS SHOWN ON THE DRAWINGS WILL BE PERMITTED ONLY AS AUTHORIZED BY ENGINEER.

CONCRETE TOPPING
1 CONCRETE TOPPING SHALL BE REINFORCED WITH A SYNTHETIC FIBER MEETING THE FOLLOWING REQUIREMENTS:
  A FIBRILLATED POLYPROPYLENE FIBERS ENGINEERED AND DESIGNED FOR USE IN CONCRETE, COMPLYING WITH ASTM C116, TYPE III.
  B LENGTH: FIBER LENGTH SHALL BE A MINIMUM OF 1.5 INCHES.
  C DOSAGE: FIBERS SHALL BE USED AT A MINIMUM DOSAGE RATE OF 1.5 POUNDS PER CUBIC YARD OF CONCRETE.

STRUCTURAL STEEL
1 STRUCTURAL STEEL CONSTRUCTION SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
2 MATERIAL
  A STRUCTURAL STEEL W-SHAPES---------- ASTM A992, GRADE 50
  B STRUCTURAL STEEL CHANNELS, ANGLES, PLATES, AND MISC.---------- ASTM A36
  C STRUCTURAL TUBING ---------- ASTM A500, GRADE B
  D STEEL PIPE ---------- ASTM A53, TYPE E OR S, GRADE B
  E HIGH-STRENGTH BOLTS ---------- ASTM A325
  F ANCHOR BOLTS ---------- ASTM F1554, GRADE 36
  G HEADED ANCHOR STUDS ---------- ASTM A108
3 ALL STRUCTURAL STEEL BOLTED CONNECTIONS SHALL BE 0.75 INCH DIAMETER A325-N BOLTS WITH STANDARD HOLES, UNLESS OTHERWISE NOTED.
4 ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE – STEEL (AWS D1.1), AND SHALL BE PERFORMED BY WELDERS QUALIFIED BY THE APPROPRIATE AWS TEST FOR THE WELDING PERFORMED.

STRUCTURAL ABBREVIATIONS

ADDN'L	ADDITIONAL
AGG	AGGREGATE
ALT	ALTERNATIVE
AB	ANCHOR BOLT(S)
&	AND
ARCH	ARCHITECT OR ARCHITECTURAL
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
@	AT
BSMT	BASEMENT
BM	BEAM
R	BEAM REACTION
BRG	BEARING
BTWN	BETWEEN
BLK	BLOCK
BD.BM.	BOND BEAM
BOT	BOTTOM
BLDG	BUILDING
CANT	CANTILEVER
CLG	CEILING
CTR	CENTER
CL	CENTER LINE
CTR'D	CENTERED
CLR	CLEAR
COL	COLUMN
COMP	COMPOSITE
C	COMPRESSION
CONC	CONCRETE
CMU	CONCRETE MASONRY UNIT
CONN	CONNECTION
CONST	CONSTRUCTION
CJ	CONSTRUCTION, CONTROL, OR CONTRACTION JOINT
CONT	CONTINUOUS
CONTR	CONTRACTOR
DL	DEAD LOAD
DBE	DECK BEARING ELEVATION
DEFL	DEFLECTION
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DWL(S)	DOWEL(S)
DWG(S)	DRAWING(S)
EA	EACH
EF	EACH FACE
EW	EACH WAY
E	EAST
E-W	EAST-WEST
ELEC	ELECTRICAL
EL	ELEVATION
ELEV	ELEVATOR
EQ	EQUAL

STRUCTURAL ABBREVIATIONS

EXST	EXISTING
EXP	EXPANSION
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
FF	FAR FACE
FFE	FINISHED FLOOR ELEVATION
FLR	FLOOR
FT	FOOT
FTG	FOOTING
FDN	FOUNDATION
GALV	GALVANIZED
GA	GAUGE
GC	GENERAL CONTRACTOR
GLU-LAM	GLUED LAMINATED WOOD
HAS	HEADED ANCHOR STUD
HS	HEADED STUD(S)
HP	HIGH POINT
HK	HOOK
HORZ	HORIZONTAL
IN	INCH
ID	INSIDE DIAMETER
IF	INSIDE FACE
INSUL	INSULATION
INT	INTERIOR
JNT	JOINT
JBE	JOIST BEARING ELEVATION
JST(S)	JOIST(S)
K	KIPS
KIP	1 KIP = 1,000 LBS
KLF	KIPS PER FOOT
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
LW	LIGHT WEIGHT
LTL	LINTEL
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
MAS	MASONRY
MO	MASONRY OPENING
MAT	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MEZZ	MEZZANINE
ML	MICRO LAMINATED WOOD
MIN	MINIMUM
MISC	MISCELLANEOUS
M	MOMENT
NF	NEAR FACE
NEC	NECESSARY
NOM	NOMINAL

STRUCTURAL ABBREVIATIONS

N	NORTH
N-S	NORTH-SOUTH
NTS	NOT TO SCALE
#	NUMBER
OC	ON CENTER
OPNG	OPENING
OPP	OPPOSITE
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
/	PER
PLK	PLANK
PL	PLATE
PT	POST TENSION
LBS	POUNDS
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PJC	PRECAST CONCRETE
REBAR	REINFORCING BAR
REINF	REINFORCING OR REINFORCE
REQ'D	REQUIRED
REV	REVERSE
RTU	ROOF TOP UNIT
SCHED	SCHEDULE
SEC	SECTION
V	SHEAR
SHT	SHEET
SIM	SIMILAR
S	SOUTH
SPEC	SPECIFICATION
SQ	SQUARE
STD	STANDARD
STL	STEEL
STIFF	STIFFENER
SUPP	SUPPORT
TEMP	TEMPORARY OR TEMPERATURE
T	TENSION
THRU	THROUGH
T&B	TOP AND BOTTOM
TBE	TOP OF BEAM ELEVATION
TFE	TOP OF FOOTING ELEVATION
TPE	TOP OF PIER ELEVATION
TQ	TORQUE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
WWF	WELDED WIRE FABRIC
W	WEST OR WIDE FLANGE
W/	WITH
W/O	WITHOUT
WD	WOOD
WP	WORK POINT

100% CONSTRUCTION DOCUMENTS - FOR CONSTRUCTION

No	REVISION	DATE

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STAMP/SEAL
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
MN 40555
BRYAN L. ASCHE, PE REG. NO.
DATE: 02-01-2013

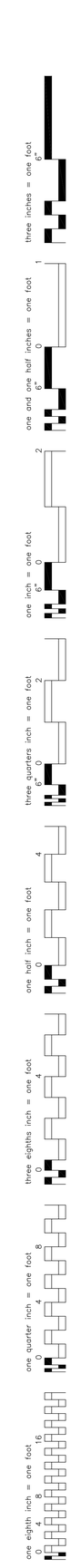
DRAWING TITLE: GENERAL STRUCTURAL NOTES AND ABBREVIATIONS

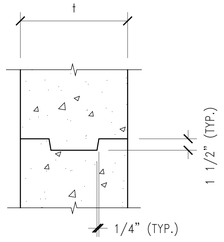
PROJECT TITLE: REPAIR ABANDONED BRIDGE ABUTMENT

DATE: 02.01.2013
PLOT SCALE: AS NOTED
PROJECT NO: 656-13-233
BUILDING No
CHECKED BY: RWM
DRAWN: TJP
CAD FILE: 11050N
LOCATION: VA MEDICAL CENTER ST.CLOUD, MN 56303
DRAWING NO.: S1.0
SHT: 10 of 24

VAMC SAINT CLOUD MN

VA FORM 08-6231

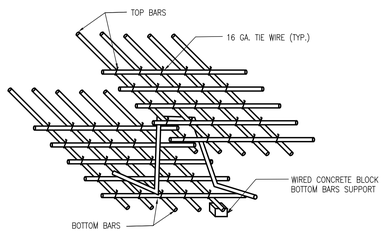




NOTE:

1. USE 2 X 4 NOMINAL KEYWAY IN WALLS WHERE T < 12". USE 2X6 NOMINAL KEYWAY WHERE T > 12"
2. ALL CONSTRUCTION JOINTS SHALL HAVE KEYWAYS AND CONTINUOUS REINFORCEMENT (OR DOWELS) UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER.

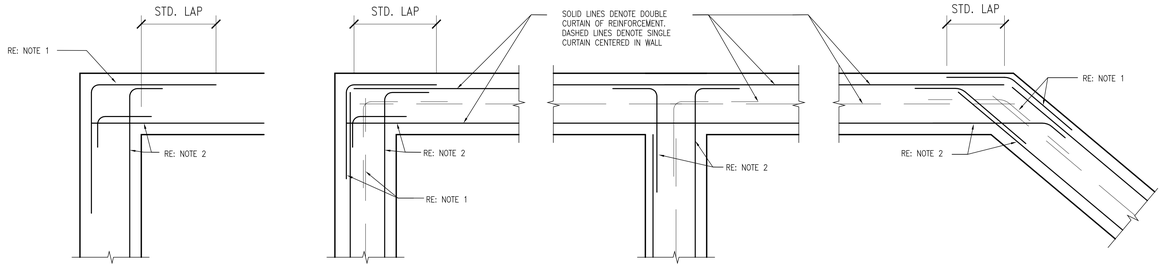
1 S1.1 DETAIL - KEYWAY
SCALE:NONE



NOTE:

1. METAL BAR SUPPORTS, IF USED IN SLABS NOT ON GROUNG SHALL NOT MAKE CONTACT WITH FORMS.
2. REINFORCING BARS AND ACCESSORIES SHALL NOT BE IN CONTACT WITH ANY OTHER METAL INSTALLATION OR ACCESORY EMBEDDED IN CONCRETE. A MINIMUM OF 2" CLEARANCE SHALL BE PROVIDED IN ALL CASES.

2 S1.1 DETAIL - BAR CHAIR REINF. SUPPORT
SCALE:NONE



3 S1.1 HORIZONTAL REINFORCEMENT AT CONCRETE WALL CORNER AND INTERSECTIONS
SCALE:NONE

NOTE:

1. PROVIDE CORNER BARS WITH STANDARD LAB AS INDICATED
2. PROVIDE MAIN WALL REINFORCEMENT WITH STANDARD HOOK AT END, OR PROVIDE SEPARATE CORNER BARS WITH END HOOK AND LAP WITH MAIN WALL REINFORCEMENT
3. CORNER BARS SHALL MATCH HORIZONTAL WALL REINFORCEMENT.
4. RE: GENERAL NOTES FOR STANDARD LAP LENGTHS

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BRYAN L. ASCHE, PE — MN 40855 — REG. NO.
DATE: 02-01-2013

DRAWING TITLE: STRUCTURAL DETAILS

PROJECT TITLE: REPAIR ABANDONED BRIDGE ABUTMENT

DATE: 02.01.2013
PLOT SCALE: AS NOTED
PROJECT NO: 656-13-233
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LOCATION: VA MEDICAL CENTER ST.CLOUD, MN 56303
DRAWING NO. S1.1
DWG. 11 OF 24

VAMC SAINT CLOUD MN

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